BULLETIN
VOL. I SAN ANTONIO RADIO CLUB NO.2

President--Ivan Mangold, WA5RNV
Vice President--Floyd Roland, W5JKU
Secretary--M. D. Harris, K5PKX
Treasurer--Frank Box, WA5VFM
Sgt.@ Arms--
Les Eggleston, WA5GOQ

Meets first and third Fridays at 7:30 p.m. at the Civil Defense Headquarters, 115 Auditorium Circle. All who have an INTEREST in amateur radio are cordially invited to attend.

Bulletin Editor, Dean Davis, W5BGE. Published Bi-monthly(hopefully!)

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"PREZ" SEZ... by WA5RNV

Our Christmas party was a blast, thanks to the fine planning of Dean, W5BGE and his committee.

Believe it or not, our 1970 Code and Theory class got underway Tuesday night, Jan. 13. About 50 aspirants attended the first session. Our warm thanks to Rocky W5MIF and Lee K5HZR, who volunteered as instructors.

Our meeting place has been changed to the Civil Defense Headquarters, 115 Auditorium Circle, each first and third Friday beginning at 7:30 pm.

Now by golly, in our November poll, nineteen club members volunteered to bring a new member into the Club during the year. Four months have already passed and new members are few and far between. Let's get our proposed new members to the next club meeting.

That's all -- Ivan WA5RNV.

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DID YOU MISS THIS? by W5BGE

The Christmas Party of the SARC was attended by 104, with six coming from Houston and two coming from Corpus Christi. Dinner was at 7 pm, followed by a short meeting, MC'd by our President, Ivan Mangold WA5RNV, who kept the ball rolling at a fast clip. The SEC of the West Gulf Division, Jerry Sears, W5AIR, and wife Mary Ann, from Houston, were guests of the Club. Jerry presented a certificate of appointment to Frank Gerwitz, W5QMH, as the new ARRL Emergency Coordinator for Bexar County. Hal Sears, W5NC (and his wife), newly elected board member of the Quarter Century Wireless Association, from Houston, made a short talk directed to the QCWAers. (He is the first 5 to be elected to the board). Roy Albright, W5EYB, West Gulf ARRL Director, presented a certificate of merit to Lee Ulrey, K5HZR, for his many years of service as EC for Bexar County. A JOB WELL DONE! At the intermission of the dancing the new ARRL film, "Ham's Wide World" was shown by Roy Albright.

Monte Montemayer, W5JKC, and his wife Rosie also came over from Houston. Monte is an ex-San Antonian and is well known here. Thad Johnson, W5IRQ, and wife Peggy came up from Corpus Christi. Thad is also an Ex-SAer and a past president of the SARC.

Among the QCWA members in attendance were W5EYB, W5EJT, W5HFR, W5DSA, W5EUS, W5EDX, W5JKC, W5ABQ, W5KS, W5FFA, W5LPO, W5HIV, W5DUI & W5BGE.

Other old timers and visitors included: W5IYA, W5OIK, W5LUV, W5MEU, K5DWX, W5THU, W5WXT, W5FA, W5KCR, W5OZQ, W5LFG, W5VY, WA5KZN, KØRAJ/5.

Our thanks to the committee who worked on ticket sales and publicity for the party. Among those include: WA5RNV, K5PKX, W5PSQ, W5ETG, K5IEG, K5HZR, W5VPQ, W5TQE, W5EJT, K5OPT, K5MOF, W5EYB, W5LPO, W5LVE, W5KQG & K5YFW. Franc W5KQG, was responsible for the sale of 22!!! The decorations were appropriately done by Hazel Albright, Peggy De-Lay WA5GZO and Maybelle Davis.

The food was good, the music GOOD, everyone apparently had a good time --even the old-timers, for at one time near the close it was noted that 11 of the 12 couples dancing at that time were QCWAers!!!!!!!! Again our appreciation to all who worked on the party.

-Dean W5BGE, Chairman of arrangements for party.

CODE and THEORY by K5MOF

Code and theory classes of the San Antonio Radio Club kicked off with a BANG on Tuesday night 13 January at the Jewish Community Center, 103 W. Rampart Street. We had thirty six people register and pay their registration fee and there were approximately ten present who will probably rigister next Tuesday night 20 January when the course actually kicks off. Introductory talks were given by Ivan W5RNV, Lee K5HZR, Rocky W5MIF, and Aubrey K5MOF.

Lee K5HZR will be the lead instructor in code, assisted by Carl WA5DQG, with Rocky W5MIF serving as as theory instructor. We will have a good selection of some prospective hams plus some old hands there to bone up on the latest. The Club Station was opened and contacts made for the benefit of these persons interested. It appears that we will have a successful and interesting venture. 73. Aubrey Armstrong K5MOF.

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Station K5UAS by W5JKU

Amateur radio is many things to many people as we Hams know. On a college campus it can also be many things. It can be an operation of a special interest club; K5UAS is licensed to the San Antonio College Radio and Electronics Club; membership open to any student of the college. It can be used to motivate the student and also show his two-way-radio communications in actual operation. On some other campuses we have heard of a college administrators net, and a RTTY net passing news between college newspapers. There is also an association of college amateur stations.

K5UAS has grown right along with the growth of technical electronics at the college. Five years ago it was located in one corner of the only electronics laboratory, using army surplus equipment. The station is now located in its own room in the 6000 square foot Electronics area in the Technical Building at 300 W. Myrtle. At present it operates on 80, 40, and 20 meters with the Heath HW series fed to a beam or dipoles, 6-meter home brew AM, or 2-meter FM. This spring a Heath SB101, and a 40-foot antenna tower is being added.

San Antonio College has, for the past five years, offered a two year electronics technician program. The program is designed to place the graduate on the job with a minimum of training by the employer. There are options to the program; general and communications, industrial and digital-electromechanical; so that the student has some choice of his field in electronics. The person entering this program has the opportunity to become familar with a wide variety of equipment, some of which is the latest on the market. Some of the "special" equipment includes devices for precise measurement of voltage, impedance, frequency, etc.; devices for closed circuit television; shop devices for fabrication of special hardware; two-way radio equipment, teletype equipment; computers; and many others.

The school is proud of the electronics department and welcomes interested visitors on campus. Please contact Floyd Roland, W5JKU, Bill Way, WA5QHG, or Richard Wilson WN5VLU for any information.
73. Floyd Roland W5JKU.

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SARO and FM by W5PSQ

The San Antonio Repeater Organization feels that it is about to come of age in a couple of weeks. The uninitiated may be surprised to learn that we have spent at least six months as the only repeater in the state of Texas transmitting via an indoor antenna. That era should come to an end early in February when construction is topped off at the transmit site. At that time, members expect to be ready to erect a brand-new DB224, an omni-directional gain antenna for two meters.

Since the inside of the building's addition will still be incomplete, we'll have to run co-ax up several stories from what used to be the top floor. Even so, two 6146's into a DB224 on the twelfth floor should be pretty hard to miss.

The other piece of news is that we are no longer competing, in effect, with the San Antonio Amateur Radio Club. Instead of meeting on the day after every SARC meeting, we've decided to meet on the first Saturday of every quarter (January, April, July, October). This means that our next regular meeting will be April 4, although there may be a special meeting before then.

Anybody with two meter FM equipment is encouraged to hear our informative bulletin every Wednesday at 7 pm on 146.94 mHz.

The officers for the SARC for this year are: President, Larry Higgins W5QMU, Vice President, Terry Turner W5ETG, Secretary, Jack Johnson WA5VZV, and Treasurer, M. D. Harris K5PKX.

The next meeting of the Texas VHF-FM Society will be in Houston, February 21-22, at the Houston Radio Club House. The Helena Motel will be where most will stay. Make your plans NOW to go!!!!!
73. Dick McGuire W5PSQ. Trustee.

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Roy's ARRL INFO by W5EYB

The 1970 West Gulf Division ARRL Convention will be held in Orange, Texas, probably during the middle of July. Asst. Director Jack Gage, Arthur Kay, John Naff, and all the gang in the Orange, Port Arthur, and Beaumont areas are busy completing inital planning. Details will be announced soon. In the meantine, make your plans to attend and help this be our biggest and best West Gulf convention and hamfest.

Austin VHF-FM enthusiasts have organized a Repeater Society, with 52 charter members and a kitty of some $800.00. They plan to have a real hot repeater going soon. The one now in use works mighty fine but is a one-man operation. 5VPQ knows what that is like.Hi!

Our old friend and former San Antonian, Asst. Director Len Parsons W5GR, the well known DX hound, has a real fine article in the Panhandle club's January '70 issue of the "Local Oscillator".

Vice President Soupy Groves, W5NW, and XYL Beth are on a long-planned trip to Australia, New Zealand, and points SW, via Tokyo and HongKong. Soupy carried along his TR-3.

Demand for the ARRL film "Ham's Wide World" continues to be so heavy it keeps me busy keeping track of it. San Antonio showings on TV will be arranged for March or April.

The 1970 issue of the ARRL Handbook ought to be available on the news stands about February.

Local amateurs conducting work on 220, 432 and 1296 mc, including moonbounce and ATV are requested to write me a note describing equipment used, antennas, operating hours, etc. In travelling throughout the Division I'm frequently asked about this type activity in the San Antonio area.

George Grammer, longtime head of our QST Technical Section has retired, but will continue to serve the League in an advisory capacity. John Huntoon has appointed Doug DeMaw Acting Technical Editor. This Director suggests that you old timers who have profited over the years from the fine work of our technical editor write George a note of appreciation.

We learn with considerable consternation that Hurley Saxon, our QSL Bureau Manager, now finds it necessary to give up this activity because of changes in his working schedule. Formal call for a replacement will appear in a forthcoming newsletter. In the meantime, if you know of someone who may be interested please advise me. The QSL Manager should be someone who has a lot of time to devote to the job. He should be extremely dependable, a dedicated amateur, interested in that type of work, and capable of carrying on a considerable amount of correspondence. Since this is another of those thankless, non-pay duties it may be very difficult to find a suitable replacement. The job does have considerable appeal to avid stamp collectors. Hurley and Mary Saxon have been doing a magnificent job. We regret they will not be able to continue.
73. Roy L. Albright W5EYB, ARRL Director, West Gulf Division

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Restricted SPACE Antennas by W5PEK

While stationed in Germany, I did considerable operating, and had the opportunity of meeting and making firm friendships with many German amateurs.

The usual housing in Germany is in the form of apartments 3 ro 4 floors high, or multiple dwellings with very restricted yard space. The general roof construction features steeply pitched tile or slate roofs, with a light wooden supporting framework. Space is at a premium.

A number of my friends were restricted to VHF operations because they did not have sufficient space to erect or support HF antennas. This problem led to many personal and on-the-air discussions about the matter. Most of the solutions suggested were various forms of whips or loaded wires. Unfortunately, these forms of antennas are very inefficient and are prone to introducing in-house hot spots. It is difficult to explain to the hausfrau how or why the WC reached out and bit her!

These discussions were joined by amateur operators from many countries. The general house construction was similar, and the space restrictions were about the same. I used to talk with a British ham, and he kept talking about walking or working "down at the bottom of his garden." I kept visualizing some sort of property or field gradually sloping down to a river bank 50 or 100 yards away until I was rudely brought up one night when I found the bottom of his garden was 15 feet from the house!

Well, that was the general situation. In some cases, much worse. In trying to help, I was fortunate in having a considerable library of technical material to research from. I knew the most desirable situation was to have maximum current flow in the antenna for maximum radiation and efficiency, and the most current fell at the center of a dipole or at the base of a quarter wave vertical. I eliminated the vertical from my considerations because of ground loss and the difficulty of establishing a ground plane, and directed my investigations toward the dipole area.

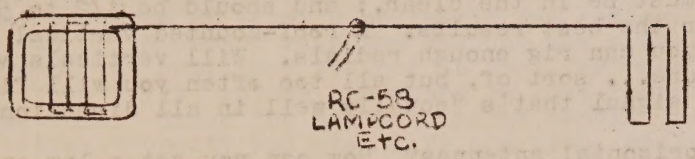
In a very obscure (and old) article by Dr. Heaviside, a chap who has done a bit of antenna research himself, I ran across the current distribution curve in a dipole, broken into discrete increments and scaled as efficiency percentages for each incremental portion. In effect, the center 1/8 wave of a dipole antenna does about 90% of the radiating. Even less than this can be used, and I'll give you an illustration of what I finally developed for a friend, and was applied in numerous other instances.

Irwin DJ3YC lived in a rented room on the top floor of a house just outside Frankfurt. He had moved in closer to town from a farm community. He was an avid 40-meter CW operator. His room was approximately 10 feet by 15 feet (3 x 5 meters). The landlady flapped down her number 12 with a flat NEIN when he asked about an outside antenna. He did have a little balcony outside the window where he stuck up a "TV Antenna" for 2 meters!! But he was almost in tears each time we discussed the problem in convivial surroundings.

His room was up under the eaves and had a clear run of 15 feet at the highest point. This gave us a flat-top length of close to 1/8 wavelength mentioned in Dr. Heaviside's article which would equate to a radiation efficiency of about 90% of a full dipole. All we needed to do was resonate the antenna.

I eliminated the idea of placing a coil in the center of the span because this would have reduced the efficiency to well below 5%. Therefore, the only alternative was to effectively increase the length of the antenna while leaving the center span intact. After thinking about, and eliminating the idea of a coil and "top-hat" type of arrangement on each end, I decided the best way to maintain efficiency and still resonate the antenna was by using two wooden frames, one on each wall, wound in a non-inductive manner. This was done by driving nails about 3/4 inch apart in two rows at the top and bottom of the frame, approximately 1 foot square, to form a winding frame, and the full length 40-meter antenna, less the center portion, was wound on the frames. (continued on next page)

The winding looked like this:



The total length was on the same order as a half wave dipole, but there was a slight difference. I believe, if I remember correctly, that somewhat more wire was required.

Later, Irwin re-fabricated the plaques and used clips so he could use the same antenna on 80, 40, and 20. He just clipped in the wire he needed. The bandwidth was on the same order as a dipole, with a radiation pattern having very sharp nulls off the ends; otherwise similar to a dipole. Results? Irwin told me his best DX was a 5-7-9 from California on 40 CW, running about 100 watts. One of my favorite 80-meter contacts was with a ham using a 21 inch flat top, and loaded as I have described. It worked, too.

The antenna is fed in the conventional manner using any type feed line, with arrangements similar to a dipole. Oh, yes, keep away from the ends. They're HOT!!! And keep the wire an inch or more away from the wall. 160 anyone? 73. D. B. Olson W5PEK

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S.E.T. by W5QMH

A Simulated Emergency Test was held Saturday afternoon, January 24, with the SARC's W5SC located at the Red Cross, in action with the help of WA5VZV (the SARO repeater station) on 2-meters. The simulated emergency was a flooded area in Conception Park on Roosevelt Avenue with possible danger to the City Public Service Board's power plant. The first member of the Disaster Survey Team of the SARC to arrive at the area was M. D. K5PKX.

Our official score for the test was well above previous years, with the number participating, the number of messages handled, and the number of mobiles and portable units in the test. Some of the participants included:

K5HZR	WAØRUX/5	WA5JTV	K5MOF	W5KLV	WA5QPN	W5BGE
WA5DQG	W5ABQ	K5GVY	WA5QQV	K1PKQ/5	K5WMT	WA5QQQ
W5FAR	W5EZY	K5UKN	W5ETG	WA5ULP	W5QMU	WA5BNM
W5YOY	K5PKX	W5PSQ	W5VPQ	WA5YZA	W5DSF	W5KMU
K5IEG	WA5BJM	W5LFG	W5QMH	WA5VFM	WA5RNV	

My thanks to all who participated in this endeavor and especially to WA5RNV, WA5VFM and K5IEG who operated W5SC during the SET.
73 Frank W5QMH, EC for Bexar County.

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DX NOTES by W5GR

No subject is closer to a DX man's heart than that of antennas. Here, certainly, is where one separates the men from the boys. Everyone is limited to the same maximum power input, all modern receivers have better than one microvolt sensitivity, but Wow, is there ever a difference between antennas! And there are no limits on antennas!

DX-wise, the most important antenna parameter is angle of radiation and low is the secret. For 10-meter long haul, for instance only that power radiated at angles of less that 15 degrees contributes to the signal strength. The rest is wasted, except for short skip openings. Well, if low is the word; and the lower the better, just how do I get my super lightening signal squirter to radiate at low angles?- - - The answers (and there are more than one) are fortunately simple. If your antenna is a vertical, you must have near perfect ground conduction for at least a wavelength in all directions from the antenna base. Here in the Panhandle (unless you are a Maritime Mobile cruising Lake Meredith) you can get that ground conductivity only through a set of radials.

Thirty-two radials are good, 64 are better and 120 are better yet. They should be of copper or aluminum, carefully bonded together and to a deep ground rod at the antenna base; and they should be buried just

beneath the surface of the ground. The antenna itself can be at ground level, must be in the clear,; and should be 1/2 to 5/8 wavelength long for the best results. A roof-mounted vertical will work well provided you can rig enough radials. Will verticals work without radials? Sure... sort of, but all too often you will find that they radiate a signal that's "equally well in all directions".

What then of horizontal antennas? How can you get a low angle of radiation from them? Radials? No, radials are of no help unless they are miles long. The answer for horizontals is height above ground For good DX results, any horizontal antenna should be a wavelength high. Even simple doublets perform wonderfully at this height. If you can't get it up that high; then the higher the better is the rule to follow. Raising an antenna even twenty feet will make a great improvement in DX work.

OK, so we put horizontal antennas as high as possible; but what kind of antenna? Beam? Long wire? Rhombic? For most city dwelling DX-ers, the answer has to be a rotary beam, which now brings us to that breathless controversy--Yagi or Quad?

Well, if both antennas are the same hight, it becomes a question of which has the most gain. For Yagis and Quads, gain is primarily dependent upon boom length, not the number of elements (although there is, of course, an optimum number of elements for any given boom length). Here, the Quad has an advantage. To give equal gain, a Yagi must have a boom 1.8 times longer than the equivalent Quad. Thus a 20-meter 2-element Quad with a 10 foot boom has the same gain as a 3-element Yagi with an 18 foot boom. Also a Quad has greater bandwidth than a Yagi because of its lower Q. The average Quad can easily be matched with a less than 2:1 SWR over any amateur band; while a Yagi can seldom cover more than 200 kc with a low standing wave ratio.

Why then do Yagis remain so popular? The answer lies in their mechanical strength, their commercial availability, and in the fact that all elements can be at a DC ground, affording that precious essential, lightning protection.
73 & DX Len Parsons, W5GR

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FM and RACING

by W5VPQ

This time we are going to mention some of the other aspects of FM beyond those covered in the initial chapter. One of the more interesting and enjoyable activities is the supplying of communications for the races sponsored by the local region of the Sports Car Club of America. This year present plans are for two events to again be held in San Marcos, Texas. Because of the location of the events, some right on top of each other, and others ¼ of a mile or more apart, FM is a natural for this application. In fact we've tried everything else from 160 meters through 455 mcs plus citizen's band and find FM the only way to go. Of course the quality and dedication of the operators who have been participating cannot be overlooked in judging past success.

For those of you who have not had the opportunity to enjoy a weekend at the track, here is a brief description of the operation. The Sport Car Club holds what they call "Club Races" which are for the general membership who have passed certain requirements and have a car that meets minimum standards for racing. This is similar to having a ham license and equipment which won't get a pink ticket. The next requirement is some sort of closed track around which to race. This is usually one of the abandoned or lightly used airports for the local races. Now, the safety requirements for a race include stationing flag men at certain stratigic locations, usually corners, to indicate conditions which drivers cannot see by displaying various flags. In addition it is necessary that the race officials be continuously aware of these conditions and messages from the officials to the flag men be rapidly relayed. In order to accomplish this we have an amateur with a FM unit at each corner. For safety sake, he is at least 150 feet from the track and talks to the corner captain by a small telephone system. Additionally most of our regular operators also have a mobile PA system which amplifies the output of the receiver so that most of the time everyone on the corner can hear all of the radio calls.

The track that the local club used most recently had 6 turns, which when added to the positions at the start-finish line, registration and pit area, requires at least 9 operators and radios. We usually try to have one or two spare rigs and welcome new operators. Unfortunately some of the positions are not as good for watching the race as others, but we try to rotate operators so that everyone gets a chance to spectate. Since the communications handled can involve matters affecting property and even life and limb, we like to have an experienced operator at each corner and let new operators assist them and provide other communication off the course.

Last fall we were very short handed since several of our regulars happened to be out of town at the same time, so hope that some of you who haven't tried sport car race communications will join us in March at Camp Gary.
73's, George, W5VPQ.

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QCWA by W5LPO

The QUARTER CENTURY WIRELESS ASSOCIATION, Inc., was founded in 1947 and subsequently established as a non-profit membership corporation in the State of New York, dedicated to: 1--fostering and developing friendship and cooperation among Amateur Radio Operators of more than twenty-five years standing, 2--taking general interest in all matters affecting or involving Amateur Radio, and 3--to sponsor such actions as may be deemed proper in their interest.

Since its inception in 1947, QCWA has grown from the original fifty-four charter members to over 4700 active members world wide, and to forty-six chapters located within the United States and overseas. Chapters which are self-supporting entities of QCWA, comprise ten or more QCWA members in good standing who reside within the same geographical area.

The local chapter of the QCWA held their quarterly meeting January 29 at the home of Doc Phillips, W5KJ. Election of officers for this year was the main business. Elected were: Gene Jank, W5EJT, Chairman; Doc Phillips, W5KJ, Assistant Chairman, and John Shean, W5LPO, Secretary-Treasurer.

The annual QCWA QSO party will be held Feb. 14-15 on all bands. Local members will participate in this annual "get-together" on the air. The QSO party has a contest flavor with scoring for contacts, states, and countries as multipliers.

Anyone who has been licensed for twenty-five years or more is eligible to join the local chapter. Those desiring information or application blanks call W5LPO, John Shean, 696-1879.
73, John, W5LPO.

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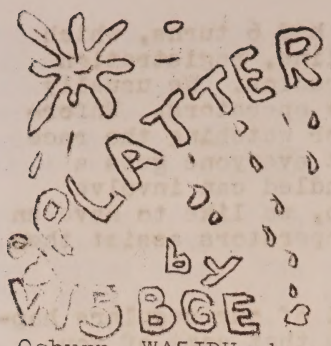
NEWS FLASH

Official Bulletin NR. 256 from ARRL Headquarters Newington,Conn. Jan. 22, 1970 to all radio amateurs -

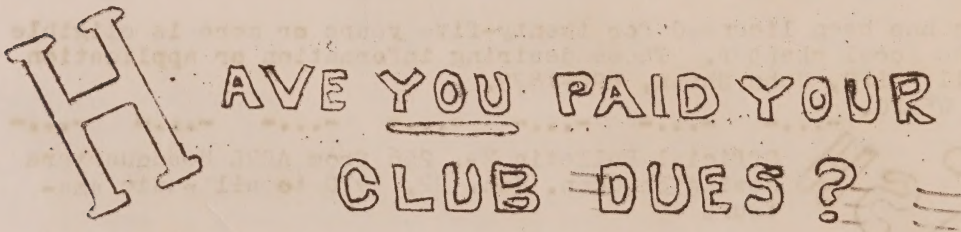
FCC has now taken final action in Docket 18508. Following up an ARRL proposal of some years back, the two-meter cw subband will change from 147.9 through 148.0 MegaHertz to 144.0 through 144.1 MegaHertz. Additionally, the F-1 subband on ten-meters which is currently 29.0 through 29.7 MegaHertz will change to 28.0 through 28.5 MHz. These changes become effective March 2. Details in March QST. AR

Official Bulletin Nr. 257 from ARRL Headquarters Newington, Conn. Jan. 23, 1970 to all radio amateurs -

Australis Oscar 5 was successfully launched at 1131 GMT, Jan. 23. It began transmitting on 29.450 and 144.050 MHz at 1237 GMT. Australis Oscar 5 is in a circular orbit at 790 nautical miles with an inclination of 102 degrees and an orbital period of 115.1 minutes. Each equator crossing will progress westward by 28.8 degrees. W1AW will transmit orbital predictions Monday through Friday at 1345 and 1900 GMT on regular cw bulletin frequencies in addition to all regular official bulletin schedules. AR



In the January 6 issue of The San Antonio Light on the editorial page in the "Through the Years" column there appeared this item: Jan. 6, 1920--The San Antonio Radio Club will meet tomorrow night at the club rooms at 608 W. Evergreen. The club, affiliated with the American Radio Relay League, has a membership of 40. Gus Beckleman is recovering slowly from his leg amputatation and now is preparing to learn to use an artificial leg. He is pushing 74 years and is active on the handicapped net on 40, also handles many phone patches on 40 and 15.---Robert Csburn, WA5JDU, has returned from Little Rock and will attend SAC mid-term, hoping to major in radio announcing.---RUMOR: Surplus outfits in town are getting some goodies. Repeat--RUMOR (furnished courtesy W5ETG).---Gene W5EJT, Jank's daughter was recently in an automobile accident in Atlanta, Ga. The car she was in flipped over three times. She is now out of the hospital and doing fine. Gene has just returned from braving the wilds of Oklahoma, having to go to school in Ok City for a week.---Four SARC members are striving valiently to obtain the advance first aid for the Disaster Action Team of the Bexar County Chapter of the Red Cross. They are W5ETG, K5UKN, WA5VFM and W5QMH.---Incidentally Frank, W5QMH is now the proud possessor of 5 German Shepherd puppies, all sable colored, all doing well.---Jim, K5UKN, has been heard working on phone recently the following VK9, Cocos Island; 7Z3, Saudi Arabia; VU India; UA, Russia, 9M, Malasia and FL8, French Somaliland on the low end of 20, a DX hound, eh?---California Factory Gets Help From Local Ham! Yep, Terry, W5ETG will be in California for three weeks to attend an Electronic Factory School, as Ole, W5PEK, commented: Playboy Ham Visits California And Gets Paid For It!---George Loos, W5LFG. is now connected with a new business venture, Diversified Electronics, specializing in the manufacturing of burglary alarm systems.---Ruth, K5OPT, Katherine, K5TSE, and Gerry, K5YCE, all members of the ALAMO YL's, are going to the code and theory class for a refresher and are enjoying it.---Les Eggleston, WA5GOQ, was released from the hospital on Jan. 20, had gall bladder operation, now recovering nicely. Complained bitterly because hospital would not let him rest, made him get up out of bed and walk around, even when he was in intensive care. No rest for the weary!---Larry (Doc) W5QMH, reports that new glasses developed especially for MINI SKIRT WATCHING are called "thigh focals" ------FLASH---Jerry Conway, W5KLV, reports that planning for the 1970 STEN convention at New Braunfels is already under way. Reserve June 5, 6, 7, for this activity. Further info will be forthcoming.
73's W5BGE, Dean.



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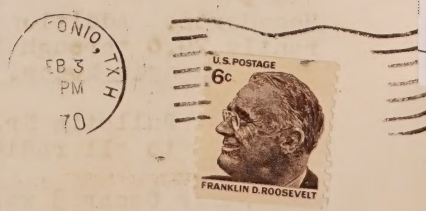

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